

REMARKS

Claims 1-37 are pending in this application. Claims 1, 3, 5-8, 11 and 26 have been amended. Claims 26-37 remain withdrawn from consideration by the Examiner as being directed to a non-elected invention. Reconsideration of this application, as amended, is respectfully requested.

Interview with Examiner

An interview was conducted with the Examiners in charge of the above-identified application on September 3, 2008. Applicants greatly appreciate the courtesy shown by the Examiners during the interview.

In the interview with the Examiners, the restriction requirement was discussed. Specifically, it was asserted by Applicants representative that the restriction requirement was improper and that arguments against the restriction requirement would be presented in response to the Examiner's Office Action. Accordingly, arguments against the Examiner's restriction requirement have been provided for the Examiner's consideration hereinbelow.

In addition, the rejection under 35 U.S.C. § 112, second paragraph, was discussed. It was asserted by Applicants representative that the claims were definite and clear; however, the claims would either be amended to address the Examiner's rejection or arguments would be presented against the Examiner's rejection in response to the Examiner's Office Action. Accordingly, claims 8 and 11 have been amended to address the Examiner's rejection and arguments have been presented with regard to the Examiner's rejection of claim 20 hereinbelow.

Finally, the differences between the present invention and the La et al. reference were discussed. It was explained that the volume of viscous medium in the nozzle space before impact was constant in La et al., but the volume of viscous medium in the presently claimed invention was controlled between each step of impacting in order to vary the volume of each individual

droplet. Accordingly, the claims have been amended to clarify this point and arguments have been presented against the Examiner's rejection hereinbelow.

Priority Under 35 U.S.C. § 119

The Examiner has acknowledged the claim to foreign priority and receipt of the certified copy of the priority document. However, it is believed that the Examiner should have checked the box 12(a)(3) on the PTOL-326 Form, as the present application is a National Stage Application and the certified copy of the priority document should have been forwarded by the International Bureau. Clarification is requested in the next Official Communication.

Election/Restriction

Claims 26-37 remain withdrawn from consideration as being directed to a non-elected invention. In the Examiner's Office Action, the Examiner asserts that claims 1 and 26 lack the same or corresponding special technical feature. However, both claims 1 and 26 recite the special technical feature of feeding a controlled amount of viscous medium into the nozzle space to adjust the volume in the nozzle space between each impact. In view of this, it is believed that the Examiner's restriction requirement should be withdrawn.

Rejection Under 35 U.S.C. § 112, second paragraph

Claims 8, 11 and 20 stand rejected under 35 U.S.C. § 112, second paragraph, as failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. This rejection is respectfully traversed.

As the Examiner will note, claims 8 and 11 have been amended to address the Examiner's rejection by deleting the recitation "slowly" and by changing the recitation "kept at a minimum" to "is reduced." With regard to claim 20, Applicants respectfully submit that the term "substantially" is definite and clear. Specifically, the term "substantially" provides for some variations in feeding rate due to tolerances in the equipment.

In view of the above amendments and remarks, Applicants respectfully submit that claims 8, 11 and 20 are definite and clear. Reconsideration and withdrawal of the Examiner's rejection under 35 U.S.C. § 112, second paragraph, are therefore respectfully requested.

Rejections Under 35 U.S.C. §§ 102 and 103

Claims 1, 2, 4-7, 9, 10, 12 and 19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by La et al., U.S. Patent No. 5,320,250. Claims 3, 13, 14, 20, 21 and 23-25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over La et al. Claim 22 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over La et al. as applied to claim 1 above, and further in view of Berg et al., U.S. Patent No. 6,450,416. Claims 15-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over La et al. as applied to claims 1 and 5 above, and further in view of Tzeng et al., U.S. Patent No. 5,988,526. These rejections are respectfully traversed.

The present invention is directed to a method of jetting droplets of viscous medium onto a substrate. Independent claim 1 recites a combination of steps including "feeding said viscous medium into the nozzle space ... wherein the step of feeding comprises: between each step of impacting, feeding a controlled amount of said viscous medium into the nozzle space to adjust the volume of viscous medium in the nozzle space; and varying the controlled amounts of said viscous medium fed into the nozzle space in dependence on a desired specific volume of each individual droplet to be jetted." Applicants respectfully submit that La et al. fails to teach or suggest the present invention as recited in independent claim 1.

In La et al., the amount of viscous medium ejected is dependent on the depth of the hammer impact (see column 5, lines 36-42) and the depth of the hammer impact is, in the embodiment shown in Figures 1-5, controlled by varying the position of a stop screw 64. A similar arrangement is shown for the embodiment shown in Figures 6-10, where the impact of the hammer 104 is controlled by a stroke adjustment micrometer screw assembly 124. In view of this, the amount of viscous medium fed into the nozzle space for an upcoming impact depends

on how much viscous medium was ejected in a previous step. In other words, the volume of viscous medium in the nozzle space remains the same for each upcoming impact.

In the present invention; however, the amount of viscous medium to be ejected is dependent on the amount of viscous medium fed into the nozzle space. In other words, according to the present invention, the filling degree of the nozzle space is varied to adjust the volume of viscous medium in the nozzle space and thereby control the specific volume of each individual droplet that is ejected. This can be clearly understood from a review of Figures 6a-6c of the present application, where the volume of viscous medium in the nozzle space is controlled in order to adjust the specific volume of each individual droplet.

Since La et al. fails to disclose this aspect of the present invention, Applicants submit that La et al. fails to anticipate independent claim 1 of the present invention.

With regard to dependent claims 2-7, 9, 10 and 12-25, Applicants respectfully submit that these claims are allowable due to their dependence on independent claim 1, as well as due to the additional recitations in these claims.

With specific regard to the Examiner's reliance on the Berg et al. and Tzeng et al. references, these references have been relied on for their teachings of a feed screw and vacuum device, respectively. Berg et al. and Tzeng et al. fail to disclose controlling the volume of viscous medium in the nozzle space between each step of impacting in order to control the specific volume of each individual droplet as in the presently claimed invention. Therefore, Berg et al. and Tzeng et al. fail to make up for the deficiencies of La et al.

In view of the above amendments and remarks, Applicants respectfully submit that claims 1-7, 9, 10 and 12-25 clearly define the present invention over the references relied on by the Examiner. Reconsideration and withdrawal of the Examiner's rejections under 35 U.S.C. §§ 102 and 103 are respectfully requested.

Allowable Subject Matter

Claims 8 and 11 were not rejected by the Examiner in view of the prior art, but were only rejected under 35 U.S.C. § 112, second paragraph. Since the rejection under 35 U.S.C. § 112, second paragraph, has been overcome for the above reasons, it is believed that claims 8 and 11 are in condition for allowance due to their dependence on independent claim 1, as well as due to the additional recitations in these claims.

CONCLUSION

Entry of the above amendments is earnestly solicited. An early and favorable first action on the merits is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Paul C. Lewis (Reg. No. 43,368) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

By 

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